

Proceeding: R.11-02-019  
Exhibit No.: \_\_\_\_\_  
Date: 9-6-2013

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**PACIFIC GAS AND ELECTRIC COMPANY**

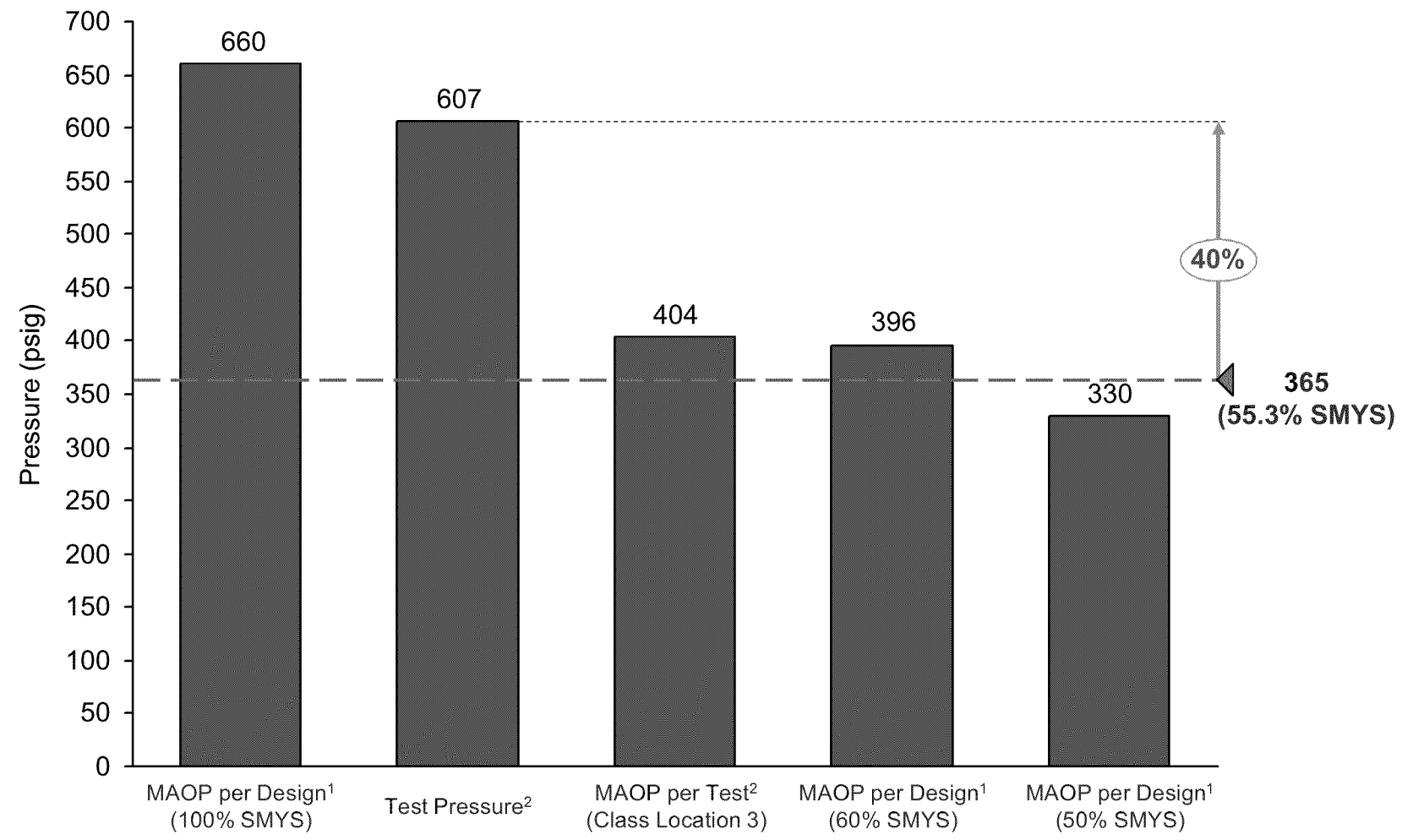
**PG&E Direct Exhibits**

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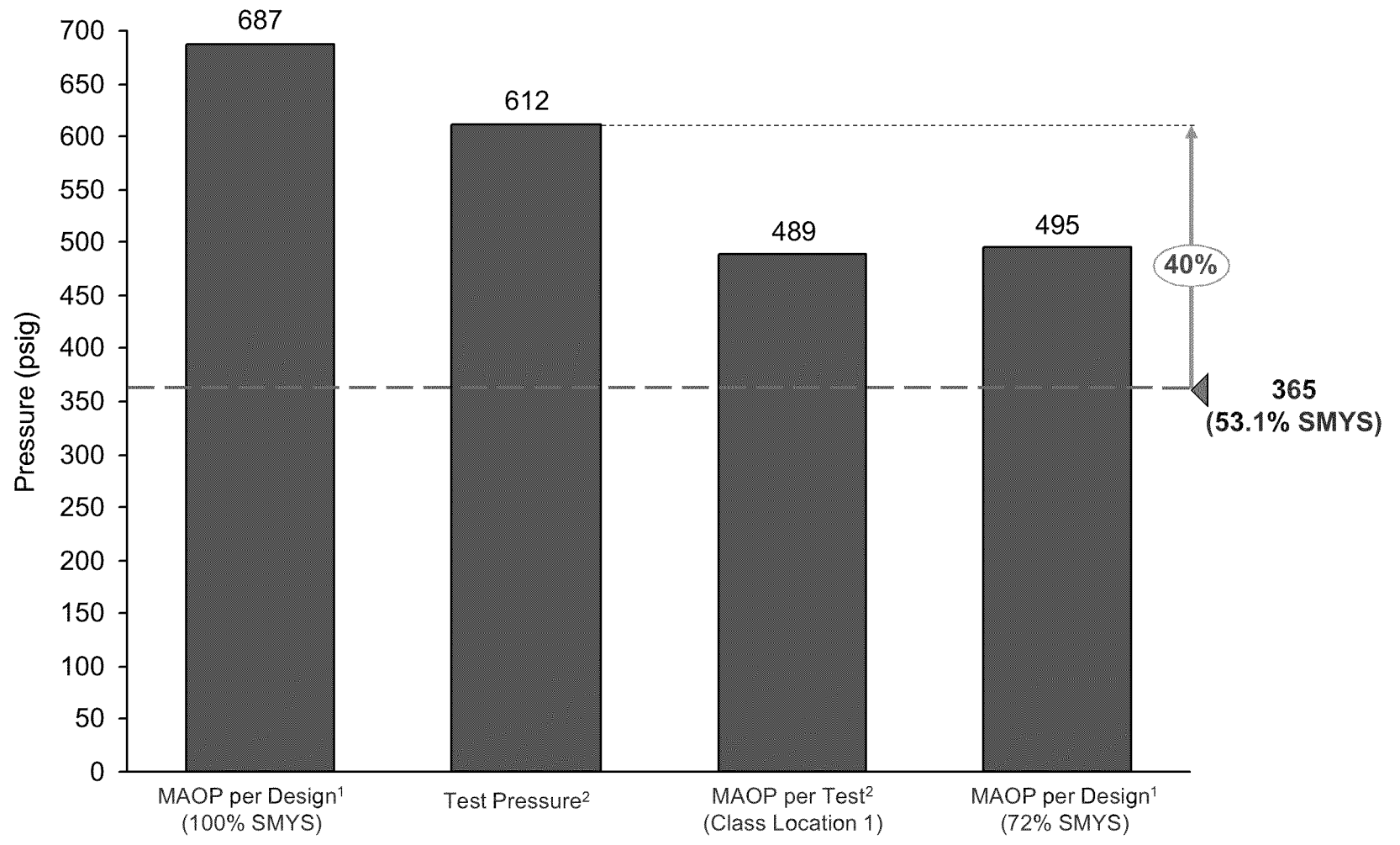
# Line 147 (Segment 109) MAOP Analysis



- 1. Based on Material Specification Records
- 2. Based on Strength Test Pressure Record



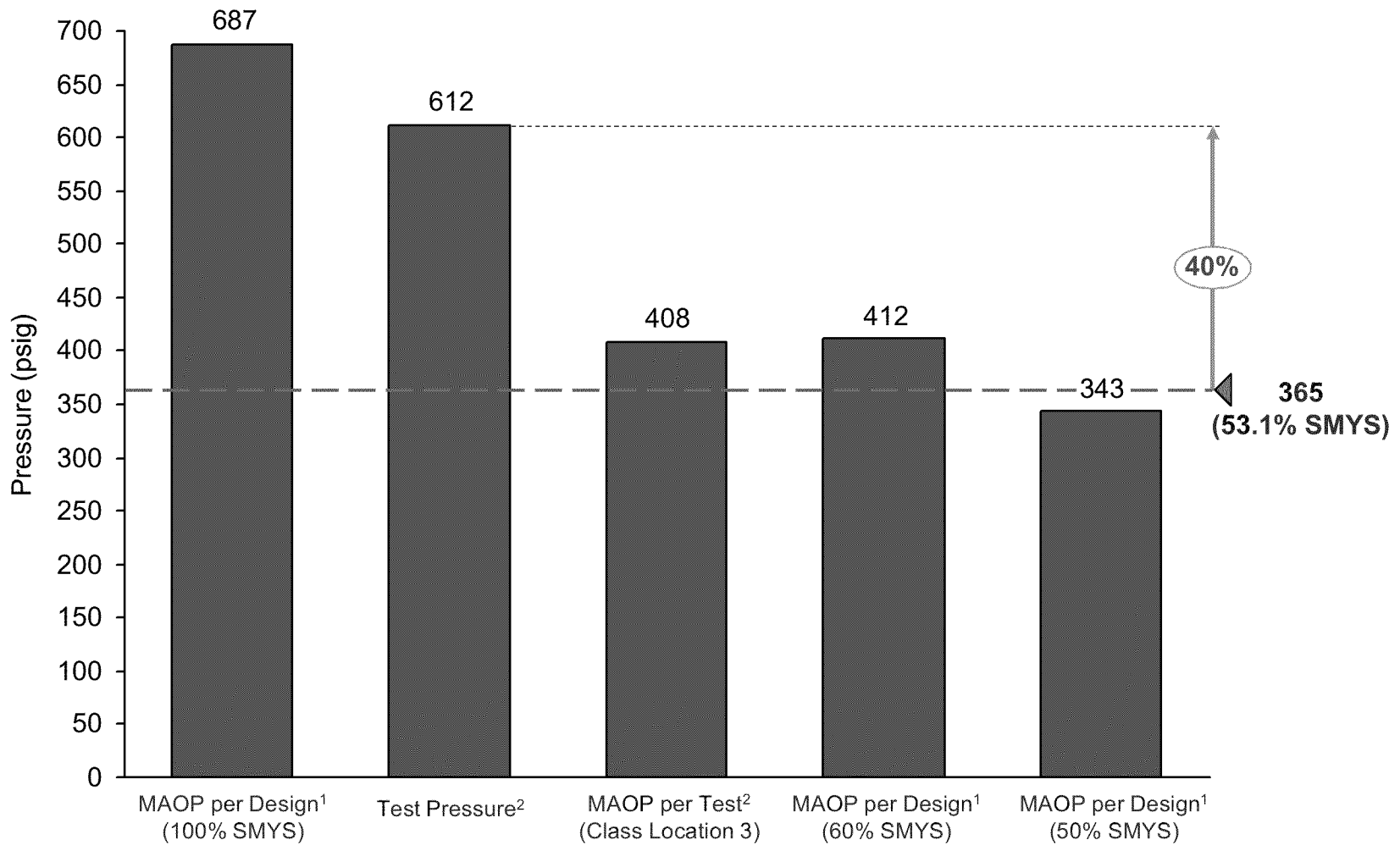
# Line 147 (Segment 103) MAOP Analysis



- 1. Based on Material Specification Records
- 2. Based on Strength Test Pressure Record



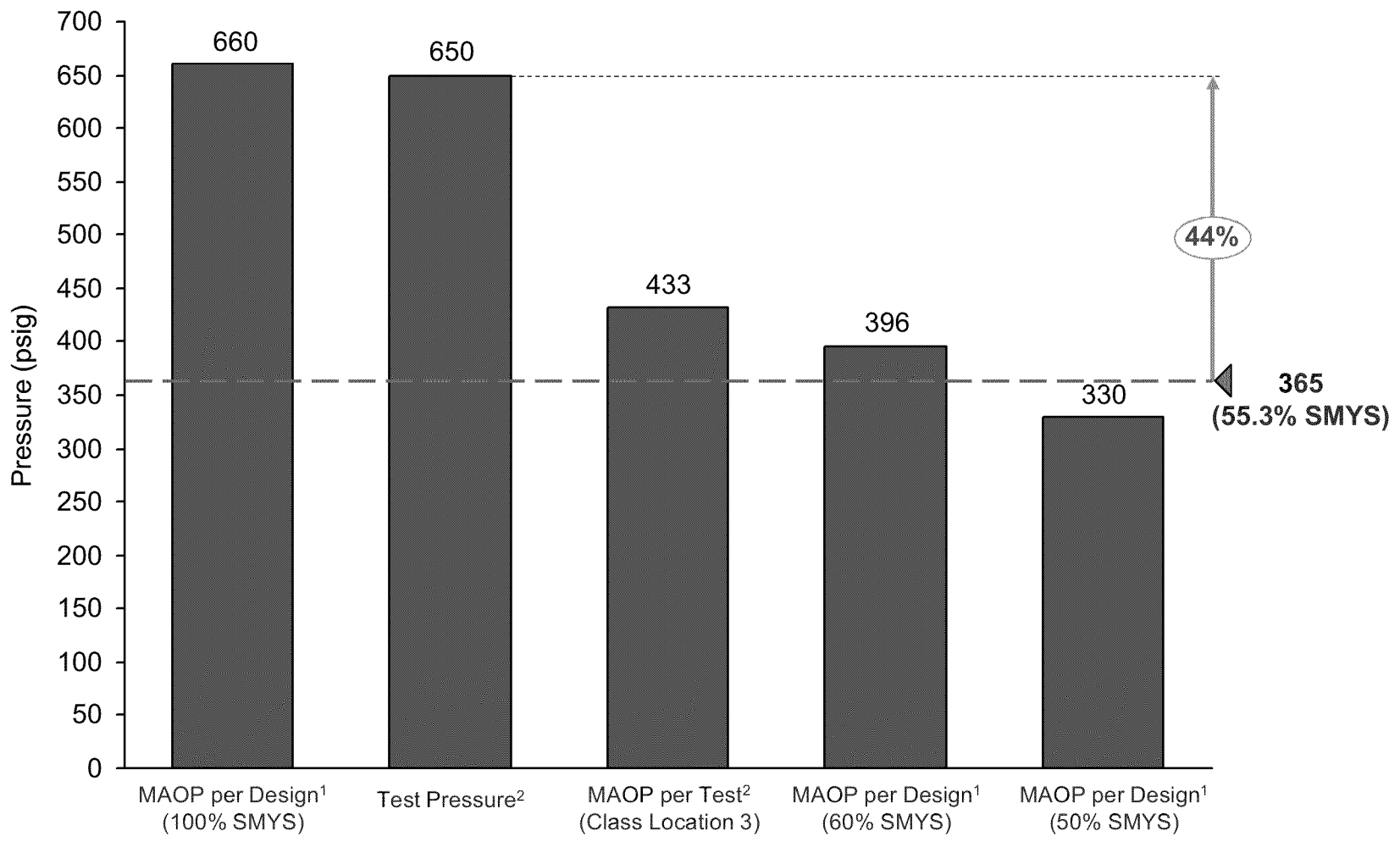
# Line 147 (Segments 103.1 & 103.6) MAOP Analysis



1. Based on Material Specification Records  
2. Based on Strength Test Pressure Record



# Line 101 (Segment 167.2) MAOP Analysis



- 1. Based on Material Specification Records
- 2. Based on Strength Test Pressure Record



# Pressure Reduction Implications

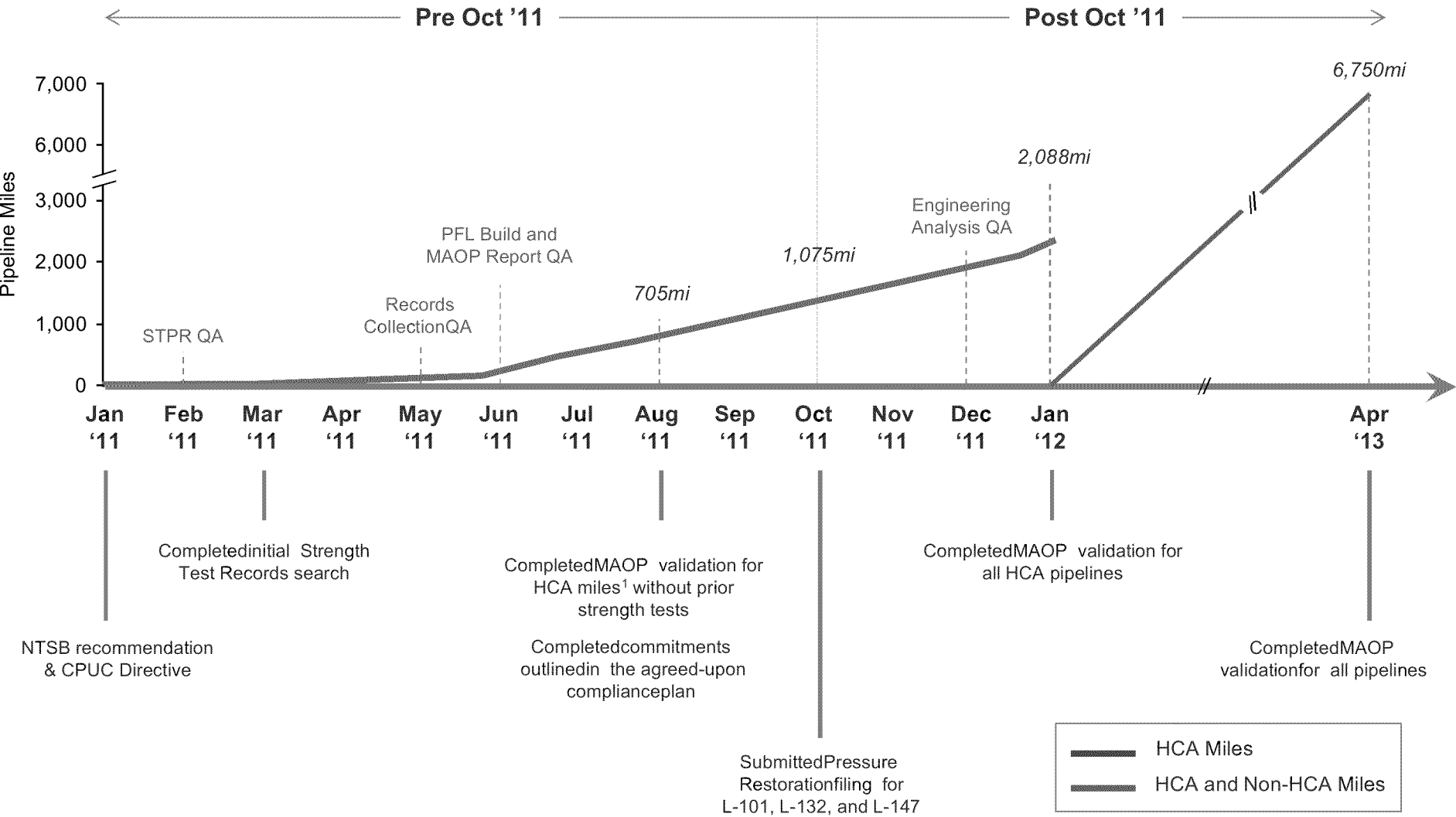
## All pressure restoration orders suspended

System	Typical Winter Day (5 to 50 days/winter)	Cold Winter Day (1-in-2 year)	Extreme Cold Day to APD (1-in-10 to 1-in-90 year)
Peninsula	OK	OK	<ul style="list-style-type: none"> <li>• High risk of core curtailment of 930 customers (SF Financial District)</li> <li>• 100% curtailment of 122 Peninsula noncore customers</li> <li>• ~ 240 MW reduction at certain critical power plants</li> </ul>
San Jose/Morgan Hill/Gilroy	OK	OK	<ul style="list-style-type: none"> <li>• 50% curtailment of 60 South Bay noncore customers</li> <li>• ~ 430 MW reduction at certain critical power plants</li> </ul>
East Bay	OK	OK	<ul style="list-style-type: none"> <li>• 50% curtailment of 85 East Bay noncore customers</li> <li>• ~ 260 MW reduction at certain critical power plants</li> </ul>
Central Coast	OK	OK	<ul style="list-style-type: none"> <li>• 50% curtailment of 84 Central Coast noncore customers</li> <li>• ~330 MW reduction at certain critical power plants</li> </ul>

**Note:** Above is one curtailment option to illustrate magnitude of impact. Further review and input from the ISO and others are required to develop a curtailment plan.



# Pipeline MAOP Validation Timeline



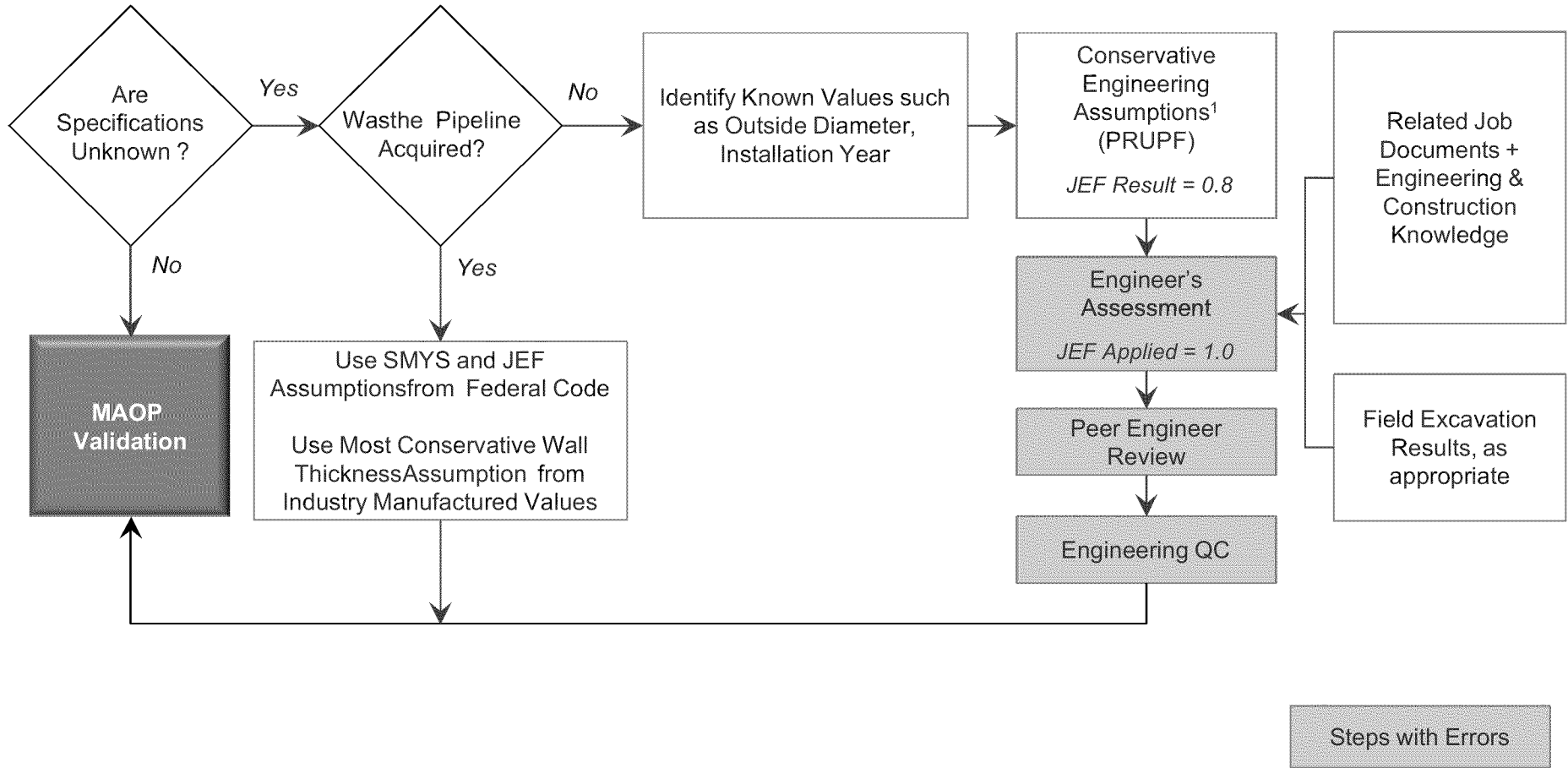
1. HCA miles includes pipelines in Class Location 3 & 4, and HCA Class 1 & 2



# MAOP Validation Process

## Line 147 (Segment 109) – Engineering Analysis

### Oct 2011 Process

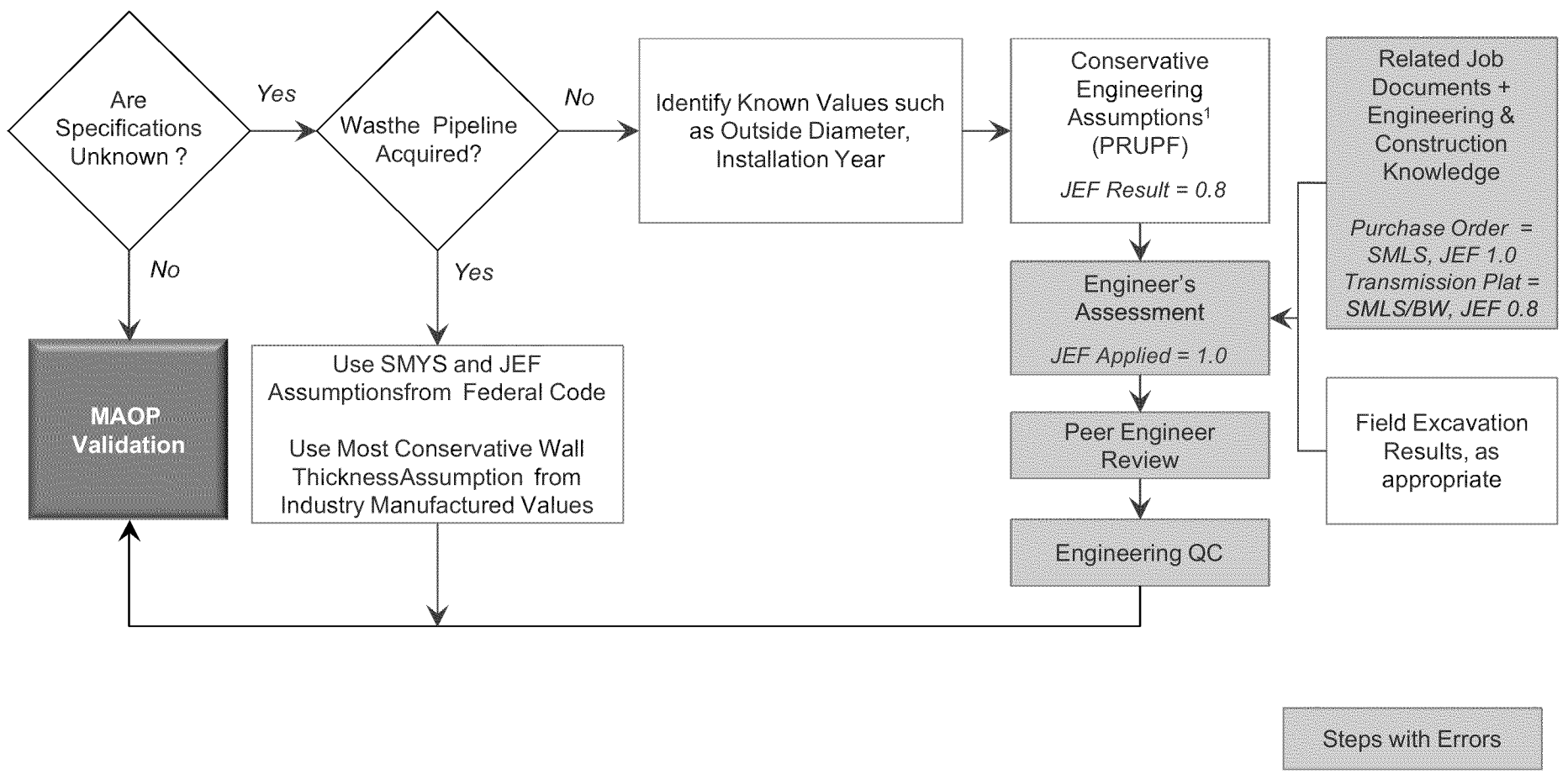


1. In accordance with PG&E's historic material specifications





### Oct 2011 Process

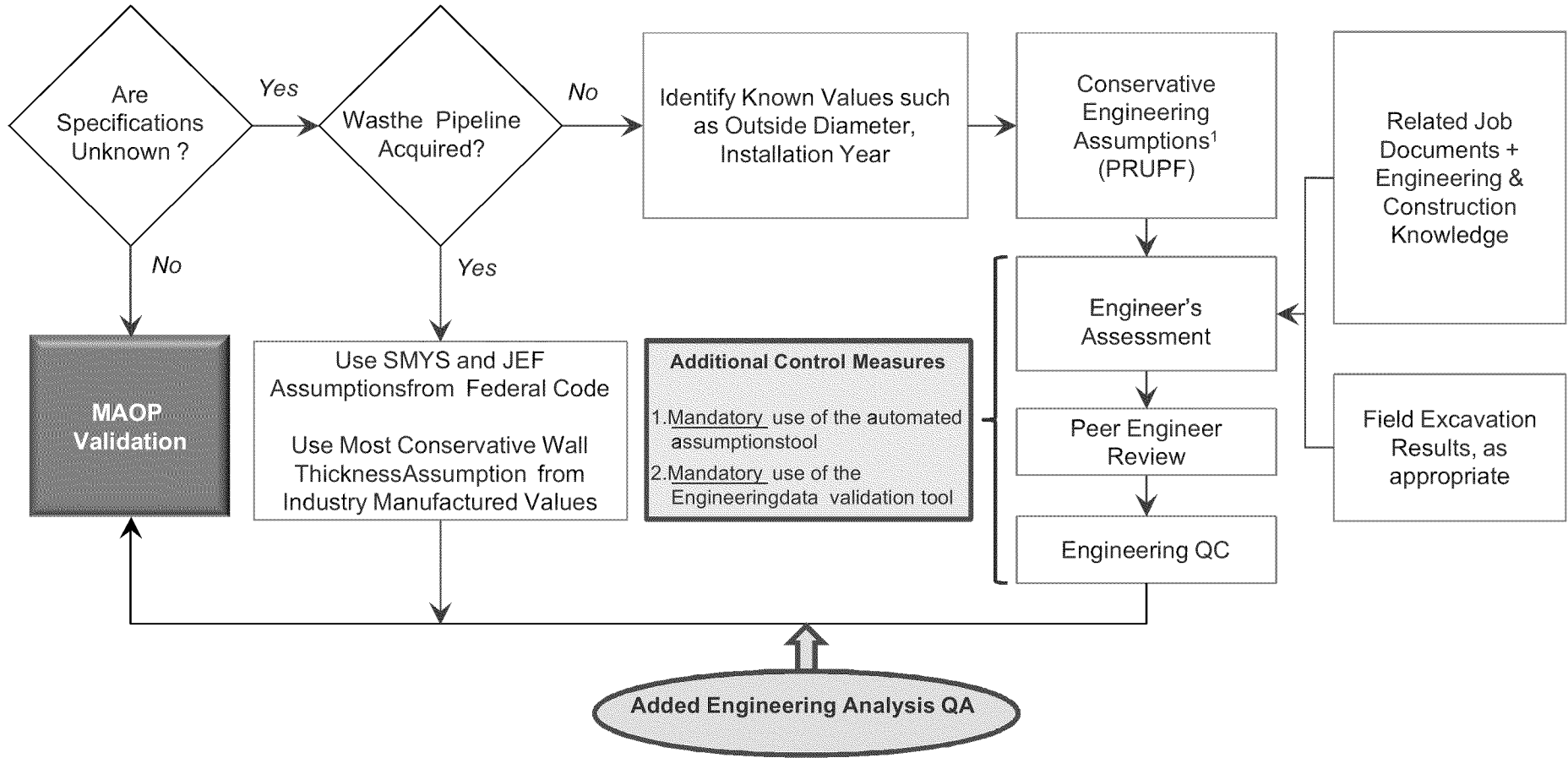


1. In accordance with PG&E's historic material specifications



# MAOP Validation Process Enhanced Process – Engineering Analysis

## Enhanced Process – December 2011



1. In accordance with PG&E's historic material specifications



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# Appendix



<b>Maximum Allowable Operating Stress Level (% SMYS)</b>			
<b>Class Location</b>	<b>Pre-1971 Class Change</b>		<b>Post-1971 Class Change</b>
	<b>Strength Test Per 192.611 (1971-1974)</b>	<b>Strength Test Per 192.611 (post-1974)</b>	<b>Strength Test Per 192.611</b>
2	72%	60%	72%
3	60%	50%	60%
4	50%	40%	50%